



Company: Catena Resources Operating, LLC
Well: Anchor 19-35-28 1H
County: Lea County, New Mexico (NAD 83)
Rig: 25' KB
Wellbore: Wellbore #1
Design: Design #2
Created By: VLS
Date: 8:44, February 05 2019

WELL DETAILS: Anchor 19-35-28 1H

+N/-S	+E/-W	GL @ 3773.00	Well @ 3798.00ust (25' KB)	Longitude
0.00	0.00	North 597583.43	East 807229.35	32° 38' 23.401 N
				103° 28' 10.366 W



DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	North	East	Latitude	Longitude
1000' VS v2	11028.00	-1000.01	-60.73	596583.42	807168.62	32° 38' 13.511 N	103° 28' 11.171 W
5000' VS v2	11148.00	-5000.00	-35.79	592583.43	807193.56	32° 37' 33.932 N	103° 28' 11.260 W
PBHL v2	11315.00	-10899.42	1.75	586884.01	807231.11	32° 36' 35.559 N	103° 28' 11.381 W
6000' VS v2	10988.00	-6000.01	-29.43	591583.42	807199.93	32° 37' 24.037 N	103° 28' 11.280 W
FTP v2	11015.42	-500.42	-65.57	597083.01	807163.79	32° 38' 18.455 N	103° 28' 11.180 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
10443.40	0.00	0.00	10443.40	0.00	0.00	0.00	0.000	0.00	KOP, 10.00°/100' Build
10943.40	50.00	180.21	10882.31	-201.43	-36.28	10.00	190.210	201.42	Begin 10.00°/100' Build & Turn
11345.28	89.02	179.64	11020.63	-569.02	-63.43	10.00	-16.510	569.01	Begin 89.02° Lateral
11776.34	89.02	179.64	11028.00	-1000.01	-60.73	0.00	0.000	1000.00	Begin 2.00°/100' Drop
11813.42	88.28	179.64	11028.87	-1037.08	-60.50	2.00	179.901	1037.07	Hold 88.28° Inc
15778.21	88.28	179.64	11148.00	-5000.00	-35.79	0.00	0.000	5000.00	Begin 2.00°/100' Build
15783.24	88.38	179.64	11148.15	-5005.03	-35.76	2.00	-4.225	5005.03	Hold 88.38° Inc
21680.11	88.38	179.64	11315.00	-10899.42	1.75	0.00	0.000	10899.42	PBHL



Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.33°

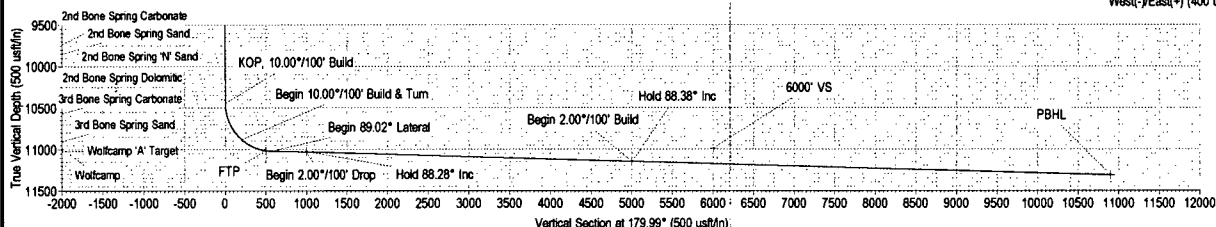
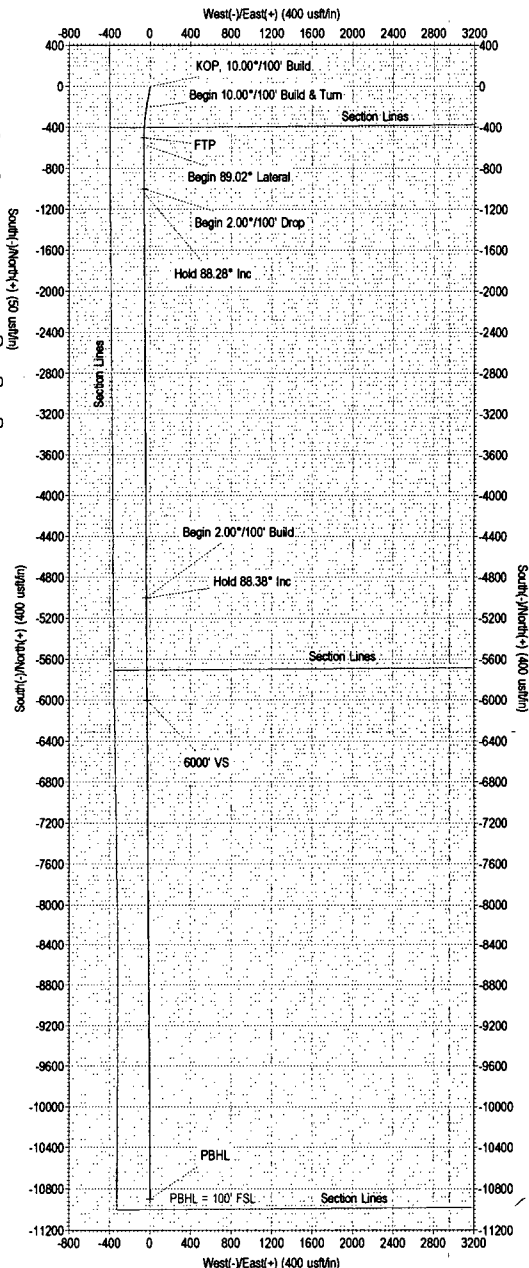
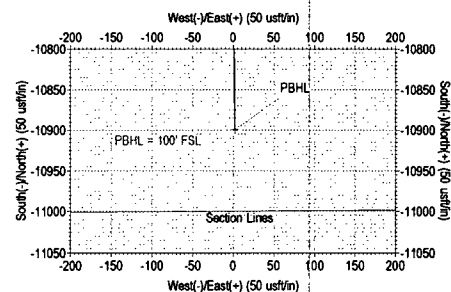
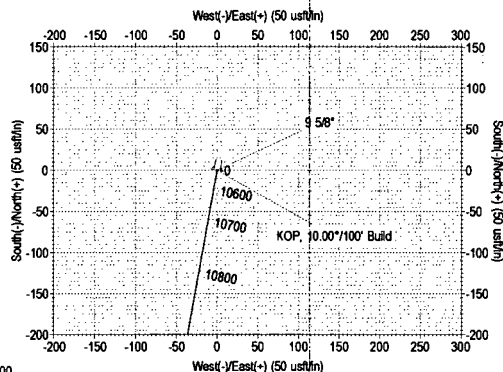
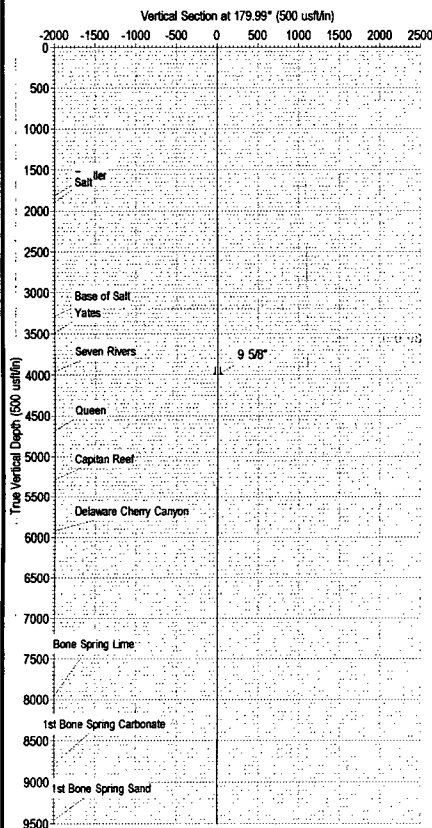
Magnetic Field
Strength: 48073.1nT
Dip Angle: 60.41°
Date: 2/1/2019
Model: BGGM2018

SURVEY PROGRAM

Depth From	Depth To	Survey/Plan	Tool
0.00	21680.11	Design #2 (Wellbore #1)	MWD

CASING DETAILS

TVD	MD	Name	Size
4000.00	4000.00	9 5/8"	9 5/8"



Database: 5000.1 Conroe DB
Company: Catena Resources Operating, LLC
Project: Lea County, New Mexico (NAD 83)
Site: Anchor 19-35-28
Well: Anchor 19-35-28 1H
Wellbore: Wellbore #1
Design: Design #2

Local Co-ordinate Reference: Well Anchor 19-35-28 1H
TVD Reference: Well @ 3798.00usft (25' KB)
MD Reference: Well @ 3798.00usft (25' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Lea County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Anchor 19-35-28				
Site Position:		Northing:	597,583.43 usft	Latitude:	32° 38' 23.401 N
From:	Lat/Long	Easting:	807,229.35 usft	Longitude:	103° 28' 10.366 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "		

Well	Anchor 19-35-28 1H					
Well Position	+N-S	0.00 usft	Northing:	597,583.43 usft	Latitude:	32° 38' 23.401 N
	+E-W	0.00 usft	Easting:	807,229.35 usft	Longitude:	103° 28' 10.366 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,773.00 usft	
Grid Convergence:	0.466 °					

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2018	2/1/2019	6.801	60.409	48,073.06

Design	Design #2				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	179.99	

Plan Survey Tool Program		Date 2/4/2019			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	21,680.11	Design #2 (Wellbore #1)	MWD	
			OWSG MWD - Standard		

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Design: Design #2

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MD Reference: Well @ 3798.00usft (25' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
10,443.40	0.00	0.00	10,443.40	0.00	0.00	0.00	0.00	0.00	0.000	
10,943.40	50.00	190.21	10,882.31	-201.43	-36.28	10.00	10.00	0.00	190.210	
11,345.28	89.02	179.64	11,020.63	-569.02	-63.43	10.00	9.71	-2.63	-16.510	
11,776.34	89.02	179.64	11,028.00	-1,000.01	-60.73	0.00	0.00	0.00	0.000	1000' VS v2 - Anchor
11,813.42	88.28	179.64	11,028.87	-1,037.08	-60.50	2.00	-2.00	0.00	179.901	
15,778.21	88.28	179.64	11,148.00	-5,000.00	-35.79	0.00	0.00	0.00	0.000	5000' VS v2 - Anchor
15,783.24	88.38	179.64	11,148.15	-5,005.03	-35.76	2.00	1.99	-0.15	-4.225	
21,680.11	88.38	179.64	11,315.00	-10,899.42	1.75	0.00	0.00	0.00	0.000	PBHL v2 - Anchor 1

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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,813.00	0.00	0.00	1,813.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,897.00	0.00	0.00	1,897.00	0.00	0.00	0.00	0.00	0.00	0.00
Salt									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,284.00	0.00	0.00	3,284.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,489.00	0.00	0.00	3,489.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,958.00	0.00	0.00	3,958.00	0.00	0.00	0.00	0.00	0.00	0.00
Seven Rivers									
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00

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North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,678.00	0.00	0.00	4,678.00	0.00	0.00	0.00	0.00	0.00	0.00
Queen									
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,273.00	0.00	0.00	5,273.00	0.00	0.00	0.00	0.00	0.00	0.00
Capitan Reef									
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,922.00	0.00	0.00	5,922.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware Cherry Canyon									
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,951.00	0.00	0.00	7,951.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring Lime									
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00

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8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,786.00	0.00	0.00	8,786.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Carbonate									
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,458.00	0.00	0.00	9,458.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Sand									
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,734.00	0.00	0.00	9,734.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Carbonate									
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,850.00	0.00	0.00	9,850.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Sand									
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00
10,157.00	0.00	0.00	10,157.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring 'N' Sand									
10,200.00	0.00	0.00	10,200.00	0.00	0.00	0.00	0.00	0.00	0.00
10,300.00	0.00	0.00	10,300.00	0.00	0.00	0.00	0.00	0.00	0.00
10,400.00	0.00	0.00	10,400.00	0.00	0.00	0.00	0.00	0.00	0.00
10,443.40	0.00	0.00	10,443.40	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 10.00°/100' Build									
10,450.00	0.66	190.21	10,450.00	-0.04	-0.01	0.04	10.00	10.00	0.00
10,483.03	3.96	190.21	10,483.00	-1.35	-0.24	1.35	10.00	10.00	0.00
2nd Bone Spring Dolomitic									
10,500.00	5.66	190.21	10,499.91	-2.75	-0.50	2.75	10.00	10.00	0.00
10,550.00	10.66	190.21	10,549.39	-9.73	-1.75	9.73	10.00	10.00	0.00
10,571.05	12.77	190.21	10,570.00	-13.94	-2.51	13.94	10.00	10.00	0.00
3rd Bone Spring Carbonate									
10,600.00	15.66	190.21	10,598.06	-20.93	-3.77	20.93	10.00	10.00	0.00
10,650.00	20.66	190.21	10,645.55	-36.26	-6.53	36.26	10.00	10.00	0.00
10,700.00	25.66	190.21	10,691.51	-55.61	-10.02	55.61	10.00	10.00	0.00
10,750.00	30.66	190.21	10,735.58	-78.83	-14.20	78.82	10.00	10.00	0.00
10,800.00	35.66	190.21	10,777.42	-105.73	-19.04	105.73	10.00	10.00	0.00
10,850.00	40.66	190.21	10,816.72	-136.13	-24.52	136.12	10.00	10.00	0.00
10,900.00	45.66	190.21	10,853.18	-169.78	-30.58	169.77	10.00	10.00	0.00
10,943.40	50.00	190.21	10,882.31	-201.43	-36.28	201.42	10.00	10.00	0.00
Begin 10.00°/100' Build & Turn									
10,950.00	50.63	189.97	10,886.53	-206.43	-37.17	206.42	10.00	9.59	-3.68
10,981.75	53.68	188.86	10,906.00	-231.16	-41.26	231.15	10.00	9.61	-3.49
3rd Bone Spring Sand									
11,000.00	55.44	188.26	10,916.58	-245.86	-43.48	245.86	10.00	9.64	-3.28
11,050.00	60.28	186.74	10,943.18	-287.83	-48.98	287.82	10.00	9.66	-3.04
11,100.00	65.12	185.36	10,966.10	-332.00	-53.65	331.99	10.00	9.69	-2.76
11,140.88	69.09	184.31	10,982.00	-369.51	-56.82	369.50	10.00	9.72	-2.57

Database: 5000.1 Conroe DB
 Company: Catena Resources Operating, LLC
 Project: Lea County, New Mexico (NAD 83)
 Site: Anchor 19-35-28
 Well: Anchor 19-35-28 1H
 Wellbore: Wellbore #1
 Design: Design #2

Local Co-ordinate Reference: Well Anchor 19-35-28 1H
 TVD Reference: Well @ 3798.00usft (25' KB)
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 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Wolfcamp									
11,150.00	69.98	184.08	10,985.19	-378.04	-57.45	378.03	10.00	9.73	-2.48
11,200.00	74.85	182.89	11,000.29	-425.60	-60.34	425.59	10.00	9.74	-2.40
11,250.00	79.72	181.74	11,011.29	-474.32	-62.30	474.31	10.00	9.75	-2.29
11,300.00	84.60	180.63	11,018.11	-523.82	-63.32	523.81	10.00	9.76	-2.22
11,345.28	89.02	179.64	11,020.63	-569.02	-63.43	569.01	10.00	9.76	-2.18
Begin 89.02° Lateral									
11,400.00	89.02	179.64	11,021.56	-623.73	-63.09	623.72	0.00	0.00	0.00
11,425.56	89.02	179.64	11,022.00	-649.29	-62.93	649.28	0.00	0.00	0.00
Wolfcamp 'A' Target									
11,500.00	89.02	179.64	11,023.27	-723.71	-62.46	723.70	0.00	0.00	0.00
11,600.00	89.02	179.64	11,024.98	-823.70	-61.83	823.69	0.00	0.00	0.00
11,700.00	89.02	179.64	11,026.69	-923.68	-61.21	923.67	0.00	0.00	0.00
11,776.34	89.02	179.64	11,028.00	-1,000.01	-60.73	1,000.00	0.00	0.00	0.00
Begin 2.00°/100' Drop									
11,800.00	88.55	179.64	11,028.50	-1,023.66	-60.58	1,023.65	2.00	-2.00	0.00
11,813.42	88.28	179.64	11,028.87	-1,037.08	-60.50	1,037.07	2.00	-2.00	0.00
Hold 88.28° Inc									
11,900.00	88.28	179.64	11,031.48	-1,123.62	-59.96	1,123.61	0.00	0.00	0.00
12,000.00	88.28	179.64	11,034.48	-1,223.57	-59.34	1,223.56	0.00	0.00	0.00
12,100.00	88.28	179.64	11,037.48	-1,323.52	-58.71	1,323.51	0.00	0.00	0.00
12,200.00	88.28	179.64	11,040.49	-1,423.48	-58.09	1,423.47	0.00	0.00	0.00
12,300.00	88.28	179.64	11,043.49	-1,523.43	-57.47	1,523.42	0.00	0.00	0.00
12,400.00	88.28	179.64	11,046.50	-1,623.38	-56.84	1,623.37	0.00	0.00	0.00
12,500.00	88.28	179.64	11,049.50	-1,723.33	-56.22	1,723.33	0.00	0.00	0.00
12,600.00	88.28	179.64	11,052.51	-1,823.29	-55.60	1,823.28	0.00	0.00	0.00
12,700.00	88.28	179.64	11,055.51	-1,923.24	-54.98	1,923.23	0.00	0.00	0.00
12,800.00	88.28	179.64	11,058.52	-2,023.19	-54.35	2,023.18	0.00	0.00	0.00
12,900.00	88.28	179.64	11,061.52	-2,123.15	-53.73	2,123.14	0.00	0.00	0.00
13,000.00	88.28	179.64	11,064.53	-2,223.10	-53.11	2,223.09	0.00	0.00	0.00
13,100.00	88.28	179.64	11,067.53	-2,323.05	-52.48	2,323.04	0.00	0.00	0.00
13,200.00	88.28	179.64	11,070.54	-2,423.00	-51.86	2,423.00	0.00	0.00	0.00
13,300.00	88.28	179.64	11,073.54	-2,522.96	-51.24	2,522.95	0.00	0.00	0.00
13,400.00	88.28	179.64	11,076.54	-2,622.91	-50.61	2,622.90	0.00	0.00	0.00
13,500.00	88.28	179.64	11,079.55	-2,722.86	-49.99	2,722.86	0.00	0.00	0.00
13,600.00	88.28	179.64	11,082.55	-2,822.82	-49.37	2,822.81	0.00	0.00	0.00
13,700.00	88.28	179.64	11,085.56	-2,922.77	-48.74	2,922.76	0.00	0.00	0.00
13,800.00	88.28	179.64	11,088.56	-3,022.72	-48.12	3,022.71	0.00	0.00	0.00
13,900.00	88.28	179.64	11,091.57	-3,122.68	-47.50	3,122.67	0.00	0.00	0.00
14,000.00	88.28	179.64	11,094.57	-3,222.63	-46.87	3,222.62	0.00	0.00	0.00
14,100.00	88.28	179.64	11,097.58	-3,322.58	-46.25	3,322.57	0.00	0.00	0.00
14,200.00	88.28	179.64	11,100.58	-3,422.53	-45.63	3,422.53	0.00	0.00	0.00
14,300.00	88.28	179.64	11,103.59	-3,522.49	-45.00	3,522.48	0.00	0.00	0.00
14,400.00	88.28	179.64	11,106.59	-3,622.44	-44.38	3,622.43	0.00	0.00	0.00
14,500.00	88.28	179.64	11,109.60	-3,722.39	-43.76	3,722.39	0.00	0.00	0.00
14,600.00	88.28	179.64	11,112.60	-3,822.35	-43.13	3,822.34	0.00	0.00	0.00
14,700.00	88.28	179.64	11,115.60	-3,922.30	-42.51	3,922.29	0.00	0.00	0.00
14,800.00	88.28	179.64	11,118.61	-4,022.25	-41.89	4,022.24	0.00	0.00	0.00
14,900.00	88.28	179.64	11,121.61	-4,122.20	-41.26	4,122.20	0.00	0.00	0.00
15,000.00	88.28	179.64	11,124.62	-4,222.16	-40.64	4,222.15	0.00	0.00	0.00
15,100.00	88.28	179.64	11,127.62	-4,322.11	-40.02	4,322.10	0.00	0.00	0.00
15,200.00	88.28	179.64	11,130.63	-4,422.06	-39.40	4,422.06	0.00	0.00	0.00
15,300.00	88.28	179.64	11,133.63	-4,522.02	-38.77	4,522.01	0.00	0.00	0.00

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Wellbore: Wellbore #1
Design: Design #2

Local Co-ordinate Reference: Well Anchor 19-35-28 1H
TVD Reference: Well @ 3798.00usft (25' KB)
MD Reference: Well @ 3798.00usft (25' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,400.00	88.28	179.64	11,136.64	-4,621.97	-38.15	4,621.96	0.00	0.00	0.00
15,500.00	88.28	179.64	11,139.64	-4,721.92	-37.53	4,721.92	0.00	0.00	0.00
15,600.00	88.28	179.64	11,142.65	-4,821.87	-36.90	4,821.87	0.00	0.00	0.00
15,700.00	88.28	179.64	11,145.65	-4,921.83	-36.28	4,921.82	0.00	0.00	0.00
15,778.21	88.28	179.64	11,148.00	-5,000.00	-35.79	5,000.00	0.00	0.00	0.00
Begin 2.00°/100' Build									
15,783.24	88.38	179.64	11,148.15	-5,005.03	-35.76	5,005.03	2.00	1.99	-0.15
Hold 88.38° Inc									
15,800.00	88.38	179.64	11,148.62	-5,021.78	-35.65	5,021.78	0.00	0.00	0.00
15,900.00	88.38	179.64	11,151.45	-5,121.74	-35.02	5,121.73	0.00	0.00	0.00
16,000.00	88.38	179.64	11,154.28	-5,221.70	-34.38	5,221.69	0.00	0.00	0.00
16,100.00	88.38	179.64	11,157.11	-5,321.66	-33.74	5,321.65	0.00	0.00	0.00
16,200.00	88.38	179.64	11,159.94	-5,421.61	-33.11	5,421.61	0.00	0.00	0.00
16,300.00	88.38	179.64	11,162.77	-5,521.57	-32.47	5,521.57	0.00	0.00	0.00
16,400.00	88.38	179.64	11,165.60	-5,621.53	-31.84	5,621.52	0.00	0.00	0.00
16,500.00	88.38	179.64	11,168.43	-5,721.49	-31.20	5,721.48	0.00	0.00	0.00
16,600.00	88.38	179.64	11,171.26	-5,821.45	-30.56	5,821.44	0.00	0.00	0.00
16,700.00	88.38	179.64	11,174.09	-5,921.40	-29.93	5,921.40	0.00	0.00	0.00
16,800.00	88.38	179.64	11,176.92	-6,021.36	-29.29	6,021.36	0.00	0.00	0.00
16,900.00	88.38	179.64	11,179.75	-6,121.32	-28.66	6,121.31	0.00	0.00	0.00
17,000.00	88.38	179.64	11,182.58	-6,221.28	-28.02	6,221.27	0.00	0.00	0.00
17,100.00	88.38	179.64	11,185.40	-6,321.23	-27.38	6,321.23	0.00	0.00	0.00
17,200.00	88.38	179.64	11,188.23	-6,421.19	-26.75	6,421.19	0.00	0.00	0.00
17,300.00	88.38	179.64	11,191.06	-6,521.15	-26.11	6,521.15	0.00	0.00	0.00
17,400.00	88.38	179.64	11,193.89	-6,621.11	-25.47	6,621.10	0.00	0.00	0.00
17,500.00	88.38	179.64	11,196.72	-6,721.07	-24.84	6,721.06	0.00	0.00	0.00
17,600.00	88.38	179.64	11,199.55	-6,821.02	-24.20	6,821.02	0.00	0.00	0.00
17,700.00	88.38	179.64	11,202.38	-6,920.98	-23.57	6,920.98	0.00	0.00	0.00
17,800.00	88.38	179.64	11,205.21	-7,020.94	-22.93	7,020.94	0.00	0.00	0.00
17,900.00	88.38	179.64	11,208.04	-7,120.90	-22.29	7,120.89	0.00	0.00	0.00
18,000.00	88.38	179.64	11,210.87	-7,220.86	-21.66	7,220.85	0.00	0.00	0.00
18,100.00	88.38	179.64	11,213.70	-7,320.81	-21.02	7,320.81	0.00	0.00	0.00
18,200.00	88.38	179.64	11,216.53	-7,420.77	-20.39	7,420.77	0.00	0.00	0.00
18,300.00	88.38	179.64	11,219.36	-7,520.73	-19.75	7,520.73	0.00	0.00	0.00
18,400.00	88.38	179.64	11,222.19	-7,620.69	-19.11	7,620.68	0.00	0.00	0.00
18,500.00	88.38	179.64	11,225.02	-7,720.65	-18.48	7,720.64	0.00	0.00	0.00
18,600.00	88.38	179.64	11,227.85	-7,820.60	-17.84	7,820.60	0.00	0.00	0.00
18,700.00	88.38	179.64	11,230.68	-7,920.56	-17.20	7,920.56	0.00	0.00	0.00
18,800.00	88.38	179.64	11,233.51	-8,020.52	-16.57	8,020.52	0.00	0.00	0.00
18,900.00	88.38	179.64	11,236.34	-8,120.48	-15.93	8,120.47	0.00	0.00	0.00
19,000.00	88.38	179.64	11,239.17	-8,220.44	-15.30	8,220.43	0.00	0.00	0.00
19,100.00	88.38	179.64	11,242.00	-8,320.39	-14.66	8,320.39	0.00	0.00	0.00
19,200.00	88.38	179.64	11,244.82	-8,420.35	-14.02	8,420.35	0.00	0.00	0.00
19,300.00	88.38	179.64	11,247.65	-8,520.31	-13.39	8,520.31	0.00	0.00	0.00
19,400.00	88.38	179.64	11,250.48	-8,620.27	-12.75	8,620.27	0.00	0.00	0.00
19,500.00	88.38	179.64	11,253.31	-8,720.23	-12.12	8,720.22	0.00	0.00	0.00
19,600.00	88.38	179.64	11,256.14	-8,820.18	-11.48	8,820.18	0.00	0.00	0.00
19,700.00	88.38	179.64	11,258.97	-8,920.14	-10.84	8,920.14	0.00	0.00	0.00
19,800.00	88.38	179.64	11,261.80	-9,020.10	-10.21	9,020.10	0.00	0.00	0.00
19,900.00	88.38	179.64	11,264.63	-9,120.06	-9.57	9,120.06	0.00	0.00	0.00
20,000.00	88.38	179.64	11,267.46	-9,220.01	-8.93	9,220.01	0.00	0.00	0.00
20,100.00	88.38	179.64	11,270.29	-9,319.97	-8.30	9,319.97	0.00	0.00	0.00
20,200.00	88.38	179.64	11,273.12	-9,419.93	-7.66	9,419.93	0.00	0.00	0.00
20,300.00	88.38	179.64	11,275.95	-9,519.89	-7.03	9,519.89	0.00	0.00	0.00

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,400.00	88.38	179.64	11,278.78	-9,619.85	-6.39	9,619.85	0.00	0.00	0.00
20,500.00	88.38	179.64	11,281.61	-9,719.80	-5.75	9,719.80	0.00	0.00	0.00
20,600.00	88.38	179.64	11,284.44	-9,819.76	-5.12	9,819.76	0.00	0.00	0.00
20,700.00	88.38	179.64	11,287.27	-9,919.72	-4.48	9,919.72	0.00	0.00	0.00
20,800.00	88.38	179.64	11,290.10	-10,019.68	-3.84	10,019.68	0.00	0.00	0.00
20,900.00	88.38	179.64	11,292.93	-10,119.64	-3.21	10,119.64	0.00	0.00	0.00
21,000.00	88.38	179.64	11,295.76	-10,219.59	-2.57	10,219.59	0.00	0.00	0.00
21,100.00	88.38	179.64	11,298.59	-10,319.55	-1.94	10,319.55	0.00	0.00	0.00
21,200.00	88.38	179.64	11,301.42	-10,419.51	-1.30	10,419.51	0.00	0.00	0.00
21,300.00	88.38	179.64	11,304.24	-10,519.47	-0.66	10,519.47	0.00	0.00	0.00
21,400.00	88.38	179.64	11,307.07	-10,619.43	-0.03	10,619.43	0.00	0.00	0.00
21,500.00	88.38	179.64	11,309.90	-10,719.38	0.61	10,719.38	0.00	0.00	0.00
21,600.00	88.38	179.64	11,312.73	-10,819.34	1.24	10,819.34	0.00	0.00	0.00
21,680.11	88.38	179.64	11,315.00	-10,899.42	1.75	10,899.42	0.00	0.00	0.00
PBHL									

Design Targets
Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
6000' VS v2 - Anchor - plan misses target center by 188.24usft at 16773.31usft MD (11176.16 TVD, -5994.68 N, -29.46 E) - Point	0.00	0.00	10,988.00	-6,000.01	-29.43	591,583.43	807,199.92	32° 37' 24.037 N	103° 28' 11.280 W
FTP v2 - Anchor 19-35-28 - plan misses target center by 2.61usft at 11276.49usft MD (11015.43 TVD, -500.47 N, -62.96 E) - Point	0.00	0.00	11,015.42	-500.42	-65.57	597,083.01	807,163.78	32° 38' 18.455 N	103° 28' 11.180 W
1000' VS v2 - Anchor - plan hits target center - Point	0.00	0.00	11,028.00	-1,000.01	-60.73	596,583.43	807,168.62	32° 38' 13.511 N	103° 28' 11.171 W
5000' VS v2 - Anchor - plan hits target center - Point	0.00	0.00	11,148.00	-5,000.00	-35.79	592,583.43	807,193.56	32° 37' 33.932 N	103° 28' 11.260 W
PBHL v2 - Anchor 19-35-28 - plan hits target center - Point	0.00	0.00	11,315.00	-10,899.42	1.75	586,684.02	807,231.11	32° 36' 35.559 N	103° 28' 11.381 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
4,000.00	4,000.00	9 5/8"	9-5/8	12-1/4

Database: 5000.1 Conroe DB
Company: Catena Resources Operating, LLC
Project: Lea County, New Mexico (NAD 83)
Site: Anchor 19-35-28
Well: Anchor 19-35-28 1H
Wellbore: Wellbore #1
Design: Design #2

Local Co-ordinate Reference: Well Anchor 19-35-28 1H
TVD Reference: Well @ 3798.00usft (25' KB)
MD Reference: Well @ 3798.00usft (25' KB)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,813.00	1,813.00	Rustler			
1,897.00	1,897.00	Salt			
3,284.00	3,284.00	Base of Salt			
3,489.00	3,489.00	Yates			
3,958.00	3,958.00	Seven Rivers			
4,678.00	4,678.00	Queen			
5,273.00	5,273.00	Capitan Reef			
5,922.00	5,922.00	Delaware Cherry Canyon			
7,951.00	7,951.00	Bone Spring Lime			
8,786.00	8,786.00	1st Bone Spring Carbonate			
9,458.00	9,458.00	1st Bone Spring Sand			
9,734.00	9,734.00	2nd Bone Spring Carbonate			
9,850.00	9,850.00	2nd Bone Spring Sand			
10,157.00	10,157.00	2nd Bone Spring 'N' Sand			
10,483.03	10,483.00	2nd Bone Spring Dolomitic			
10,571.05	10,570.00	3rd Bone Spring Carbonate			
10,981.75	10,906.00	3rd Bone Spring Sand			
11,140.88	10,982.00	Wolfcamp			
11,425.56	11,022.00	Wolfcamp 'A' Target			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,443.40	10,443.40	0.00	0.00	KOP, 10.00°/100' Build
10,943.40	10,882.31	-201.43	-36.28	Begin 10.00°/100' Build & Turn
11,345.28	11,020.63	-569.02	-63.43	Begin 89.02° Lateral
11,776.34	11,028.00	-1,000.01	-60.73	Begin 2.00°/100' Drop
11,813.42	11,028.87	-1,037.08	-60.50	Hold 88.28° Inc
15,778.21	11,148.00	-5,000.00	-35.79	Begin 2.00°/100' Build
15,783.24	11,148.15	-5,005.03	-35.76	Hold 88.38° Inc
21,680.11	11,315.00	-10,899.42	1.75	PBHL